

REMARKS/ARGUMENTS

Claims 7-15 are pending in this application. By this Amendment, Applicant cancels Claim 6 and amends Claims 7-10, 13, and 14.

Claims 9-15 have been withdrawn from further consideration as being directed to non-elected species. Claims 9-15 are dependent upon generic Claim 7. Accordingly, Applicant respectfully requests that the Examiner rejoin and allow non-elected Claims 9-15 when generic Claim 7 is allowed.

Claims 6-8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Emori et al. (U.S. 6,378,774). Claim 6 has been canceled. Applicant respectfully traverses the rejection of Claims 7 and 8.

Claim 7 as been amended to recite:

A reader/writer comprising:
an antenna substrate provided with a loop antenna; and
a control substrate provided with a coil and with a
transmitting/receiving circuit; wherein
a magnetic coupling between the coil and the loop antenna causes
the loop antenna and the transmitting/receiving circuit to be
electromagnetically connected to each other; and
**a magnetic sheet is arranged on a surface of the antenna
substrate facing the control substrate, and the coil and the loop
antenna are magnetically coupled through a space defined by the
magnetic sheet.** (emphasis added)

With the unique combination and arrangement of features recited in Applicant's Claim 7, including the feature of "a magnetic sheet is arranged on a surface of the antenna substrate facing the control substrate, and the coil and the loop antenna are magnetically coupled through a space defined by the magnetic sheet," Applicant has been able to provide a reader/writer in which the radiation efficiency of a magnetic flux generated by the loop antenna does not degrade and the communication distance to an IC card does not decrease even if the reader/writer is thin. In this case, by arranging the magnetic sheet on a surface of the antenna substrate facing the control substrate, the magnetic flux generated by the coil provided on the control substrate can reach the

loop antenna. (see, for example, paragraph [0012] of Applicant's Substitute Specification).

The Examiner alleged that Emori et al. teaches all of the features recited in Applicant's Claims 6 and 7, including an antenna substrate 5 provided with a loop antenna 4, and a control substrate 9 provided with a coil 8 and a transmitting/receiving circuit in the form of IC chip 6, wherein a magnetic coupling between the coil 8 and the loop antenna 4 causes the loop antenna 4 and the transmitting/receiving circuit 6 to be electromagnetically connected to each other, and "a (interpreted as 'any') magnetic body (interpreted as the card substrate housing all antenna elements which generates magnetic/electromagnetic field when electromagnetically activated) is arranged on a surface of the antenna substrate facing the control substrate (i.e. substrate 10), and the coil 8 and the loop antenna 4 are magnetically coupled through a space (interpreted as available volume with no other elements are included therein) defined by the magnetic body (see Figs. 3A-3B, 12A)." Applicant respectfully disagrees.

Applicant's Claim 7 has been amended to be in independent form including all of the features of previously presented Claim 6. In addition, Applicant has amended Claim 7 to recite "a magnetic sheet" instead of "a magnetic body" so as to be consistent with the Substitute Specification. Support for the features recited in Applicant's Claim 7 is found, for example, in previously presented Claim 6 (which is canceled herein) and in paragraphs [0032] and [0039] of Applicant's Substitute Specification.

Although it is unclear specifically what structural element of Emori et al. the Examiner has alleged corresponds to the magnetic sheet recited in Applicant's Claim 7 because the Examiner has failed to identify any reference characters of Emori et al. which allegedly correspond to the magnetic sheet, it is entirely clear that Emori et al. fails to teach or suggest any magnetic body or sheet whatsoever, and certainly fails to teach or suggest the feature of "a magnetic sheet is arranged on a surface of the antenna substrate facing the control substrate, and the coil and the loop antenna are magnetically coupled through a space defined by the magnetic sheet" as recited in

Applicant's Claim 7.

It appears that the Examiner has alleged that the overall card substrate 10 which houses all of the antenna elements including the antenna substrate 5 corresponds to the magnetic sheet recited in Applicant's Claim 7. This is clearly and absolutely incorrect.

Emori et al. specifically discloses that, in each and every embodiment disclosed therein, the card substrate 10 is made of resin material, such as vinyl chloride or polycarbonate (see, for example, col. 11, lines 50-53 and col. 15, lines 37-41 of Emori et al.). Emori et al. fails to teach or suggest that the card substrate 10 could or should be made of any material other than a resin material, and certainly fails to teach or suggest that the card substrate 10 could or should be made of a magnetic material. Thus, the card substrate 10 of Emori et al. clearly cannot be fairly construed as a magnetic sheet as recited in Applicant's Claim 7.

In fact, as noted above, Emori et al. fails to teach or suggest any structure whatsoever that is or could be made of a magnetic material. Therefore, regardless of the Examiner's interpretation of the alleged teachings of Emori et al., Emori et al. certainly fails to teach or suggest the feature of "a magnetic sheet is arranged on a surface of the antenna substrate facing the control substrate, and the coil and the loop antenna are magnetically coupled through a space defined by the magnetic sheet" as recited in Applicant's Claim 7.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 7 under 35 U.S.C. § 102(b) as being anticipated over Emori et al.

Furthermore, Applicant respectfully submits that it would not have been obvious to modify the device of Emori et al. such that the card substrate 10 is made of a magnetic material because doing so would render the device of Emori et al. inoperative. Particularly, as shown in Fig. 3B of Emori et al., for example, the card substrate 10 is formed by injection molding such that the entire antenna substrate 5 is embedded therein, and all portions of the coupler coil 3 and the antenna coil 4 are covered by and

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in contact with the card substrate 10. Thus, if the card substrate 10 of Emori et al. was made of a magnetic material, the magnetic card substrate 10 would prevent the electromagnetic coupling of the IC module 2 to the antenna coil 4.

The Examiner is reminded that if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) and MPEP § 2143.01.

Therefore, it would clearly not have been obvious or even possible to modify the device of Emori et al. such that the card substrate 10 is made of a magnetic material.

In view of the foregoing amendments and remarks, Applicant respectfully submits that Claim 7 is allowable. Claim 8 depends upon Claim 7, and is therefore allowable for at least the reasons that Claim 7 is allowable. In addition, Applicant respectfully requests that the Examiner rejoin and all non-elected Claims 9-15 which are dependent upon generic Claim 6.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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